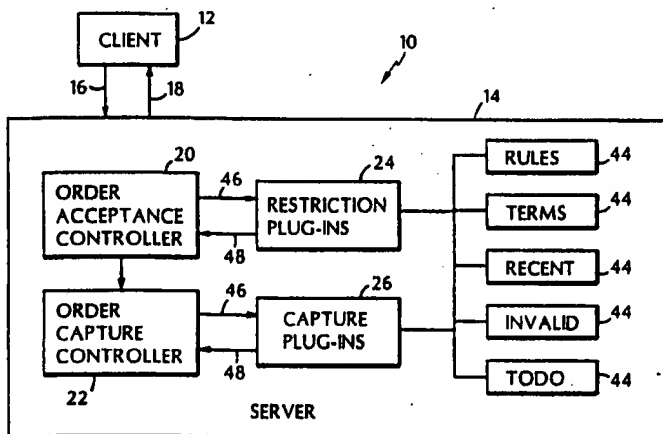




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G06F 17/60		A3	(11) International Publication Number: WO 99/52026
			(43) International Publication Date: 14 October 1999 (14.10.99)
(21) International Application Number: PCT/US99/07182		(81) Designated States: AU, JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).	
(22) International Filing Date: 31 March 1999 (31.03.99)			
(30) Priority Data: 09/052,923 31 March 1998 (31.03.98) US 09/054,180 1 April 1998 (01.04.98) US		Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	
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(54) Title: **ELECTRONIC COMMERCE SYSTEM**



(57) Abstract

An electronic commerce system (10) includes a client computer (12) and a server computer (14). The client computer (12) is programmed to transmit to the server computer (14) an order acceptance request message (16) that includes a plurality of terms or conditions of a proposed offer for a purchase, including multiple options of at least one of the terms or conditions of the offer. The server computer (14) is programmed to process the order acceptance request (16) based on pre-programmed criteria and, based on the processing of the order acceptance request (16), to transmit to the client computer (12) an order acceptance response (18) that includes a plurality of amendments to the proposed offer. The processing of the order acceptance request (16) is performed by a controller module (22), and that initiates a plurality of calls to a plurality of plug-in modules (24 and 26) which use information in the databases (44) for formulating responses. The server (14) can handle fraud-avoidance and may initiate a call to a database of a virtual warehouse to ensure that a sufficient virtual inventory exists for the purchase.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : G06F 17/60

US CL : 705/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/26, 27, 28, 39, 44, 14, 1, 64, 65, 66, 80

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,168,446 A (Wiseman) 01 December 1992, cols. 3-4.	1-10
Y	US 5,191,613 A (GRAZIANO et al.) 02 March 1993, cols. 5-7, 16.	5, 2, 6
Y	US 5,594,639 A (ATSUMI) 14 January 1997, entirety, especially fig. 2, item 28; col. 6, lines 3-4 and 55-62.	1-10, esp. 7
Y	US 5,717,989 A (TOZZOLI et al.) 10 February 1998, entirety.	1-10
Y,P	US 5,794,234 A (CHURCH et al.) 11 August 1998, entirety.	1-10, esp. 1-3
Y,P	US 5,799,285 A (KLINGMAN) 25 August 1998, entirety, especially, cols. 3-5 and 7.	1-10, esp. 3 and 5

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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Date of the actual completion of the international search

22 FEBRUARY 2000

Date of mailing of the international search report

10 MAR 2000

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 5,850,442 A (MUFTIC) 15 December 1998, entirety, especially figs. 14 and 16; col. 14.	1-10, esp. 9
Y,P	US 5,873,071 A (FERSTENBERG et al.) 16 February 1999, entirety.	1-10
Y,E	US 5,898,781 A (SHANTON) 27 April 1999, entirety.	3 and 5
Y,E	US 5,903,882 A (ASAY et al.) 11 May 1999, entirety.	1-10
Y,E	US 5,909,492 A (PAYNE et al.) 01 June 1999, entirety.	1-10
Y,E	US 5,970,470 A (WALKER et al.) 19 October 1999, entirety.	10
Y,P	US 5,724,424 A (GIFFORD) 03 March 1998, entirety.	1-10
Y,P	US 5,794,207 A (WALKER et al.) 11 August 1998, entirety.	1-10, esp. 3 and 5
Y,P	US 5,845,265 A (WOOLSTON) 1 December 1998, col. 13.	1-10
Y,E	US 6,009,412 A (STOREY) 28 December 1999, entirety.	8
Y, E	US 6,014,641 A (LOEB et al.) 11 January 2000, entirety.	10

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Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☒ As all required additional search fees were timely paid by the applicant, this International search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☒ No protest accompanied the payment of additional search fees.

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B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

USPATFULL (STN) - Terms: order/purchase/buy/subscription; electronic/online/internet/cyber/virtual/digit; electronic()commerce; agreement/contract/negotiate/propose/proposal/offer; criteria/attribute/term/condition; conditional()purchase()order/offer; coupon/discount/incentive/rebate; gift()certificate; shop/mall/retail/merchandise; plug-in; amend/modify/revise/redact/change/edit/rewrite; negotiate/mediate/arbitrate; virtual()warehouse/distribution()center; inventory; order()accept or process

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s) 1-3, drawn to electronic transaction negotiation systems.
Group II, claim(s) 4, drawn to electronic transaction negotiation modules.
Group II, claim(s) 5, drawn to electronic transaction fraud-avoidance negotiation system.
Group IV, claim(s) 6, drawn to electronic transaction optimal price negotiation system.
Group V, claim(s) 7, drawn to electronic transaction and virtual warehouse processing.
Group VI, claim(s) 8, drawn to electronic gift certificate sale negotiation system.
Group VII, claim(s) 9, drawn to electronic token sale negotiation system.
Group VIII, claim(s) 10, drawn to electronic subscription sale negotiation system.

The inventions listed as Groups I through VII do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Inventions I through VIII are disclosed as usable together in a single inventive system, however, each is distinct and separately usable.

In the instant case, invention I has separate utility over inventions II-VIII such as including multiple options in the proposed purchase offer, including in the response to a purchase offer an amendment that includes the selection of an option of at least one of the terms or conditions and cryptographically protecting communications.

Invention I lacks invention II's feature of a controller module that is capable of processing an order acceptance request and can initiate a plurality of calls to a plurality of plug-in modules that are able to handle processing order acceptance requests and are also capable of being readily replaced by different plug-in modules; invention III's capability of handling fraud-avoidance transaction processing based on parameters other than price and purchaser and seller identity; invention IV's capability of negotiating down to a certain price in response to an offered price for an item (i.e., a counter offer based on price); invention V's capability of negotiating a sale while verifying with a virtual warehouse that the item is available; invention VI's capability of negotiating the sale of gift certificates to two client computers and storing the gift certificate information in a database; invention VII's capability of negotiating the sale of tokens, which can be redeemed for micro-purchases and also the capability of increasing the number of tokens in a token database that are available for use in exchange for the micro-purchases; invention VIII's capability of negotiating the sale of subscriptions and also its capability of updating a subscription table in order to reflect the purchase of a subscription.

Invention II has separate utility over inventions I and III-VIII such as possessing a controller module that is capable of processing an order acceptance request and can initiate a plurality of calls to a plurality of plug-in modules that are able to handle processing order acceptance requests and are also capable of being readily replaced by different plug-in modules. Invention II lacks invention I's feature of including multiple options in the proposed purchase offer, including in the response to a purchase offer an amendment that includes the selection of an option of at least one of the terms or conditions and cryptographically protecting communications; invention III's capability of handling fraud-avoidance transaction processing based on parameters other than price and purchaser and seller identity; invention IV's capability of negotiating down to a certain price in response to an offered price for an item (i.e., a counter offer based on price); invention V's capability of negotiating a sale while verifying with a virtual warehouse that the item is available; invention VI's capability of negotiating the sale of gift certificates to two client computers and storing the gift certificate information in a database; invention VII's capability of negotiating the sale of tokens, which can be redeemed for micro-purchases and also the capability of increasing the number of tokens in a token database that are available for

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use in exchange for the micro-purchases; invention VIII's capability of negotiating the sale of subscriptions and also its capability of updating a subscription table in order to reflect the purchase of a subscription.

Invention III has separate utility over inventions I, II and IV-VIII such as being able to handle fraud-avoidance transaction processing based on parameters other than price, purchaser identity and seller identity.

Invention III lacks invention I's feature of including multiple options in the proposed purchase offer, including in the response to a purchase offer an amendment that includes the selection of an option of at least one of the terms or conditions and cryptographically protecting communications; invention II's feature of a controller module that is capable of processing an order acceptance request and can initiate a plurality of calls to a plurality of plug-in modules that are able to handle processing order acceptance requests and are also capable of being readily replaced by different plug-in modules; invention IV's capability of negotiating down to a certain price in response to an offered price for an item (i.e., a counter offer based on price); invention V's capability of negotiating a sale while verifying with a virtual warehouse that the item is available; invention VI's capability of negotiating the sale of gift certificates to two client computers and storing the gift certificate information in a database; invention VII's capability of negotiating the sale of tokens, which can be redeemed for micro-purchases and also the capability of increasing the number of tokens in a token database that are available for use in exchange for the micro-purchases; invention VIII's capability of negotiating the sale of subscriptions and also its capability of updating a subscription table in order to reflect the purchase of a subscription.

Invention IV has separate utility over inventions I-III and V-VIII such as being able to negotiate down to a certain price in response to an offered price for an item (i.e., a counter offer).

Invention IV lacks invention I's feature of including multiple options in the proposed purchase offer, including in the response to a purchase offer an amendment that includes the selection of an option of at least one of the terms or conditions and cryptographically protecting communications; invention II's feature of a controller module that is capable of processing an order acceptance request and can initiate a plurality of calls to a plurality of plug-in modules that are able to handle processing order acceptance requests and are also capable of being readily replaced by different plug-in modules; invention III's capability of handling fraud-avoidance transaction processing based on parameters other than price and purchaser and seller identity; invention V's capability of negotiating a sale while verifying with a virtual warehouse that the item is available; invention VI's capability of negotiating the sale of gift certificates to two client computers and storing the gift certificate information in a database; invention VII's capability of negotiating the sale of tokens, which can be redeemed for micro-purchases and also the capability of increasing the number of tokens in a token database that are available for use in exchange for the micro-purchases; invention VIII's capability of negotiating the sale of subscriptions and also its capability of updating a subscription table in order to reflect the purchase of a subscription.

Invention V has separate utility over inventions I-IV and VI-VIII such as being able to negotiate a sale while verifying with a virtual warehouse that the item is available.

Invention V lacks invention I's feature of including multiple options in the proposed purchase offer, including in the response to a purchase offer an amendment that includes the selection of an option of at least one of the terms or conditions and cryptographically protecting communications; invention II's feature of a controller module that is capable of processing an order acceptance request and can initiate a plurality of calls to a plurality of plug-in modules that are able to handle processing order acceptance requests and are also capable of being readily replaced by different plug-in modules; invention III's capability of handling fraud-avoidance transaction processing based on parameters other than price and purchaser and seller identity; invention IV's capability of negotiating down to a certain price in response to an offered price for an item (i.e., a counter offer based on price); invention VI's capability of negotiating the sale of gift certificates to two client computers and storing the gift certificate information in a database; invention VII's capability of negotiating the sale of tokens, which can be redeemed for micro-purchases and also the capability of increasing the number of tokens in a token database that are available for use in exchange for the micro-purchases; invention VIII's capability of negotiating the sale of subscriptions and also its capability of updating a subscription table in order to reflect the purchase of a subscription.

Invention VI has separate utility over inventions I-V and VII-VIII such as being able to negotiate the sale of gift certificates to two client computers and to store the gift certificate information in a database.

Invention VI lacks invention I's feature of including multiple options in the proposed purchase offer, including in the response to a purchase offer an amendment that includes the selection of an option of at least one of the terms or conditions and cryptographically protecting communications; invention II's feature of a controller module that is capable of processing an order acceptance request and can initiate a plurality of calls to a plurality of plug-in modules that are able to handle processing order acceptance requests and are also capable of being readily replaced by different plug-in modules; invention III's capability of handling fraud-avoidance transaction processing based on parameters other than price and purchaser and seller identity; invention IV's capability of negotiating down to a certain price in response to an offered price for an item (i.e., a counter offer based on price); invention V's capability of negotiating a sale while

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verifying with a virtual warehouse that the item is available; invention VII's capability of negotiating the sale of tokens, which can be redeemed for micro-purchases and also the capability of increasing the number of tokens in a token database that are available for use in exchange for the micro-purchases; invention VIII's capability of negotiating the sale of subscriptions and also its capability of updating a subscription table in order to reflect the purchase of a subscription.

Invention VII has separate utility over inventions I-VI and VIII such as being able to negotiate the sale of tokens which can be redeemed for micro-purchases and also being able to increase a number of tokens in a token database that are available for use in exchange for the micro-purchases.

Invention VII lacks invention I's feature of including multiple options in the proposed purchase offer, including in the response to a purchase offer an amendment that includes the selection of an option of at least one of the terms or conditions and cryptographically protecting communications; invention II's feature of a controller module that is capable of processing an order acceptance request and can initiate a plurality of calls to a plurality of plug-in modules that are able to handle processing order acceptance requests and are also capable of being readily replaced by different plug-in modules; invention III's capability of handling fraud-avoidance transaction processing based on parameters other than price and purchaser and seller identity; invention IV's capability of negotiating down to a certain price in response to an offered price for an item (i.e., a counter offer based on price); invention V's capability of negotiating a sale while verifying with a virtual warehouse that the item is available; invention VI's capability of negotiating the sale of gift certificates to two client computers and storing the gift certificate information in a database; invention VIII's capability of negotiating the sale of subscriptions and also its capability of updating a subscription table in order to reflect the purchase of a subscription.

Invention VIII has separate utility over inventions I-VII such as being able to negotiate the sale of subscriptions and also being able to update a subscription table in order to reflect the purchase of the subscription.

Invention VIII lacks invention I's feature of including multiple options in the proposed purchase offer, including in the response to a purchase offer an amendment that includes the selection of an option of at least one of the terms or conditions and cryptographically protecting communications; invention II's feature of a controller module that is capable of processing an order acceptance request and can initiate a plurality of calls to a plurality of plug-in modules that are able to handle processing order acceptance requests and are also capable of being readily replaced by different plug-in modules; invention III's capability of handling fraud-avoidance transaction processing based on parameters other than price and purchaser and seller identity; invention IV's capability of negotiating down to a certain price in response to an offered price for an item (i.e., a counter offer based on price); invention V's capability of negotiating a sale while verifying with a virtual warehouse that the item is available; invention VI's capability of negotiating the sale of gift certificates to two client computers and storing the gift certificate information in a database; invention VII's capability of negotiating the sale of tokens, which can be redeemed for micro-purchases and also the capability of increasing the number of tokens in a token database that are available for use in exchange for the micro-purchases.

Examiner notes that regardless of which invention (I-VIII) applicant elects, claim 3 will be examined along with the elected group.